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AI and the Cybersecurity Workforce of the Future

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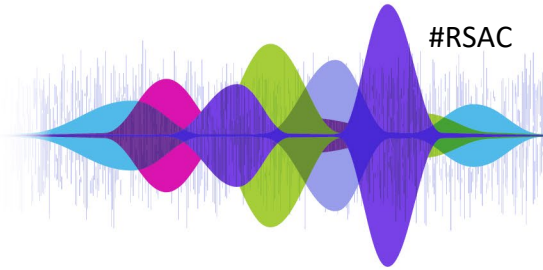

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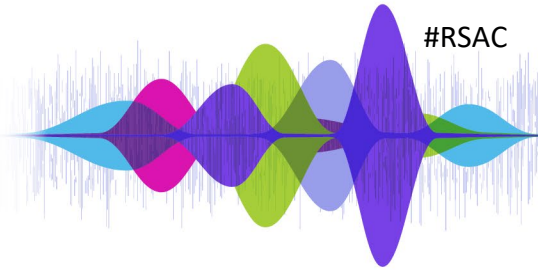
How AI will impact:

- The composition of job skills needed
- How individuals will train for cybersecurity roles
- The certifications people attempt/receive
- The job roles they'll move into



The composition of skills:

In the recent past, the introduction of cloud computing provides a good analogy

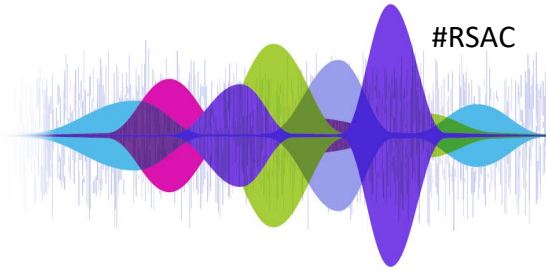
It didn’t so much completely change the skills landscape, but instead, it reshaped what constitutes entry-level

The composition of skills:

We got a couple of new job roles out of the cloud migration, namely Cloud Administrator

More impactful, however, was the introduction of cloud skills in tech support, cyber, network, software development, and others

The composition of skills:



The same will likely be true for AI across IT job roles, but maybe even more so in cyber roles

- Analyzing data
- Monitoring threats
- Configuring systems
- Using best practices

In all these areas, cyber professionals will need to understand how to best use AI tools

The composition of skills:

Not only will job candidates need to have a passing knowledge of how to use AI effectively in these areas, they'll also need to demonstrate competency as more employers get smarter in their use of pre-employment assessment tools

AI impact on training:

We've had adaptive systems in labs for quite some time, as well as red/blue team scenario training

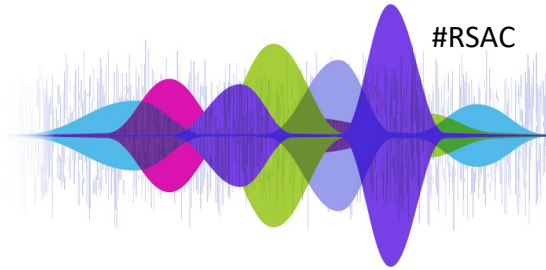
But the opportunities AI presents can create an entirely different framework

AI impact on training:

Think of AI agents acting autonomously in contained environments trying to outwit you at every turn

Closely mimicking what's already happening in practice as threat actors become more sophisticated

AI impact on training:



- Cyber ranges will morph into entirely AI driven models, providing far more unpredictable scenarios
- Your partners in team-based learning will also be AI agents with access to infinite knowledge
- AI instructors and tutors will become far more prevalent, helping alleviate the instructor shortage
- All training will become more competency focused

Cyber certifications:

There’s an alphabet soup of cyber certifications in the market today, with **CompTIA Security+** being the most widely adopted

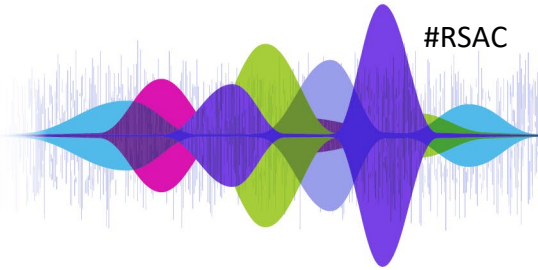
CompTIA is currently working on **SecAI+** which is meant to be a stand-alone adjunct to Security+, PenTest+, CySA+, or SecurityX

Cyber certifications:

But as cyber training changes, so too must the certifications keep up to provide a valid standard

Even the most sophisticated performance-based exams are still delivered in testing environments which haven’t kept pace with real world realities

Cyber certifications:



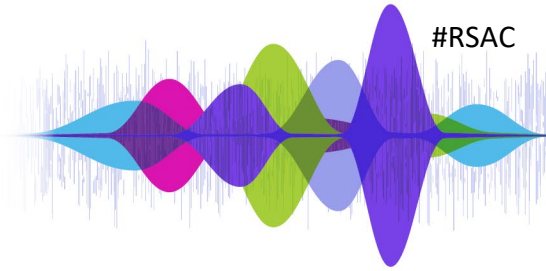
For cyber credentials to remain relevant in the world of AI, we need to reinvent the very idea of how people are tested

Exams need to become more unpredictable, dynamic, and maybe even more chaotic to better test the mettle of individuals

Cyber certifications:

Specific things which need to change -

- More scenario based
- Open book, multi-session
- Efficiency scored
- Tasks & competencies (less knowledge focused)



AI and job roles:

AI won’t so much create a whole bunch of new job roles as it will change the table stakes for skills you’ll need

CompTIA sees AI create two new distinct job roles: AI Architect and AI SysOp then impacting a whole range of others

CompTIA AI Framework:

Security

- Cybersecurity professionals will be augmented with AI/ML capabilities to more effectively secure their networks
- AI focused Expansion certifications will **amplify current cybersecurity offerings** with SecAI+, PenTestAI+ CySA AI+

Auto Coding

- Auto coding with AI projected to replace low-level coding roles
- Opportunity for CompTIA to **introduce (little) a+ Scripting certification** that would enable certification holders to efficiently engage with AI/ML coding programs

Architect

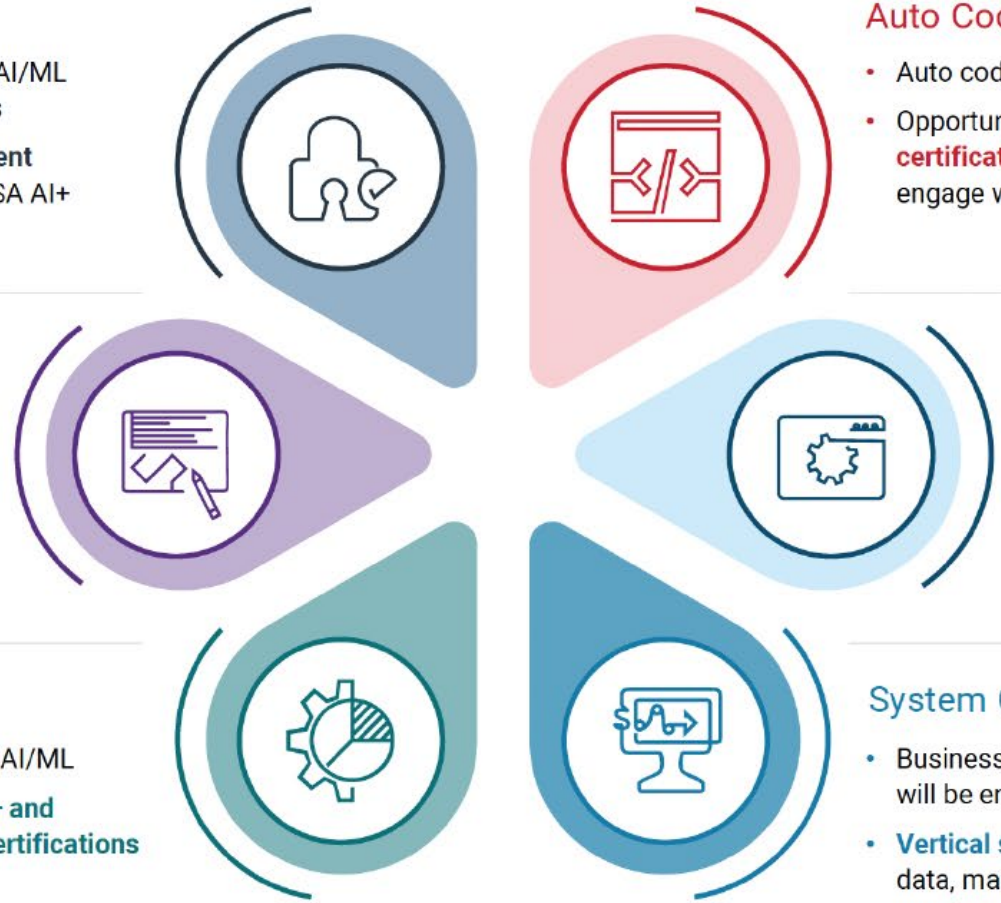
- Architects construct the networks where AI/ML live
- **New AI Architect+ CompTIA certification program** focused on AI/ML specific networks along with Expansion courses for current certification holders

Prompts

- **Likely to see specialization for tech-adjacent employees with industry specific best-practices** for prompting AI/ML
- Initially focus on (little) a+ Prompts with the opportunity to expand to AI Prompts+ as the role becomes a standalone job

Data Analytics

- Relatively new field in tech that will evolve alongside AI/ML
- Roadmap to **update learning objectives on DataSys+ and DataX+** to incorporate AI/ML as well as **Expansion certifications with Data AI+**



System Operations (SysOps)

- Business process automation and robotic process automation will be enhanced by AI/ML
- **Vertical specializations for Tech Adjacent students** including data, marketing, healthcare, and consumer support roles along with **new AI SysOps+ CompTIA certification program**

AI and job roles:

Roles in Marketing, Finance, Logistics, Customer Support, HR, and more will be significantly impacted by AI skills and tools

You’re already seeing it today in all these areas, if you can’t effectively use ChatGPT and other platforms for productivity you’re way behind the curve

AI and job roles:

The same will be true in cyber roles where we've seen the number of cyber job postings referencing AI skyrocket over the last year

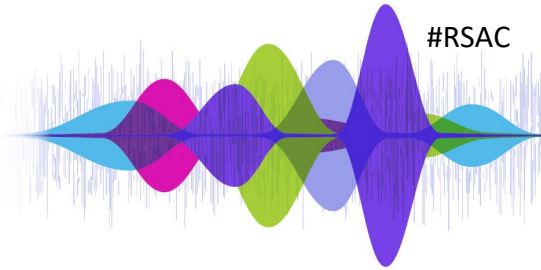
To the point where more than half of job postings for even entry-level are referencing AI competencies

Cyber certifications:

Some of the critical job role competencies are -

- Using LLM tools to find the right answers quickly
- Being able to discern good from bad answers
- Automating routine tasks
- Understanding how AI can be used for malice

Apply what you've learned:



- Talk to colleagues to find out how they're using AI in their daily jobs
- Find three ways to use AI to increase your productivity
- If you're behind, seek out AI training resources
- Find out how other functions in your company are using AI

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Thank You

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